

ABSTRACT OF THE DISCLOSURE

A write head incorporates a bottom pole layer, a top pole layer, a coupling section, a write gap layer, a thin-film coil and a cooling layer. The coupling section is disposed away from the air bearing surface and magnetically
5 couples the bottom pole layer to the top pole layer. The write gap layer is provided between the pole portions of the bottom pole layer and the top pole layer. The thin-film coil is provided between the bottom pole layer and the top pole layer and insulated from the bottom pole layer and the top pole layer. The bottom pole layer and the cooling layer are disposed in one plane. The
10 cooling layer is located farther from the air bearing surface than the bottom pole layer. The bottom pole layer and the cooling layer are separated with a gap.